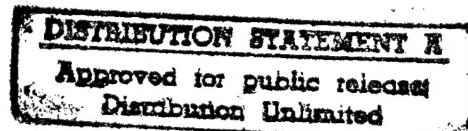


# CCP Billing Alternatives Study

**Final Report  
April 1996**



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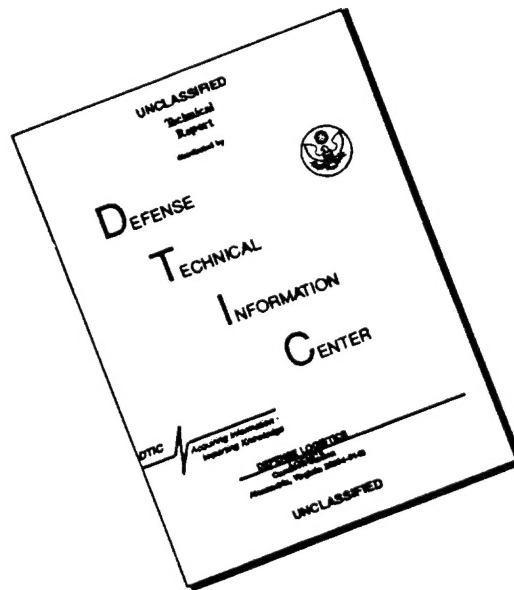
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## EXECUTIVE SUMMARY

On behalf of DoD, the Defense Logistics Agency operates consolidation and containerization points (CCPs) at Defense Depot Susquehanna, PA and at Defense Depot San Joaquin, CA. These CCPs receive freight from other defense depots and consolidate it into seavans and ALOC (Air Lines of Communication) pallets for overseas shipments. The CCPs process shipments initiated by the military services and other agencies, such as the General Services Administration (GSA).

The costs of operating the CCPs are supposed to be reimbursed under the principles of the Defense Business Operations Fund (DBOF). Under DBOF, costs are to be paid by the users of the service. Currently CCP processing costs are being paid out of the DBOF general fund and are not billed to specific customers.

The study investigated the best mechanism for billing CCP processing costs to the user or customer. The proposed billing mechanism was to be feasible, cost-effective and in line with DoD accounting practices. CCP operations, automated systems and accounting systems were studied with particular attention to the availability and reliability of data for billing. Primary attention was given to the DSS (Distribution Standard System) used in operating the CCPs. Billing practices used by other DoD components for consolidation services were investigated.

Choices for a billing mechanism were narrowed down to the following:

- Transportation account code (TAC)
- Routing identifier code (RIC)
- Department of Defense Activity Address Code (DODAAC)
- Hybrid alternative (RIC/DODAAC)

The RIC was recommended as the billing mechanism based on availability/reliability of data and on correspondence with current DoD accounting policies. The ability of the RIC to identify the inventory control point (ICP) for a shipment allows incorporation of CCP costs into the DoD standard prices. This is the current procedure in DoD for recouping distribution costs.

RIC data in the Management Information System (MIS) component of DSS was analyzed for February 1996. Results showed that approximately 76 percent of CCP shipments could be charged

to a DLA or military service ICP. GSA and vendor-originated shipments did not have billable RICs. It was recommended that these non-billable shipments be prorated based on the billable categories.

The study investigated three units of measure for billing: line count, weight and cube. Weight and cube were determined to be more representative measures of material processed through the CCPs than line count. Data in the MIS was analyzed to determine the availability and reliability of weight and cube. Since the cube data is not available on a consistent basis in MIS, the use of weight data was recommended as unit of measure for billing.

Volpe recommendations for CCP billing are as follows:

- Use the owner RIC in the MIS data for billing the ICPs
- Analyze the MIS BBC records to arrive at billing proportions
- Use weight as the unit of measure for billing
- Match BBC and MIS issue records to obtain weight per line item
- Prorate non-ICP shipments based on proportion of ICP shipments

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# **1. Introduction and Scope**

## **1.1 Purpose of the Study**

The DLA Operations Research Office (DORO) directed the Volpe National Transportation Systems Center (DOT Volpe Center) to perform a study on billing practices for DLA's consolidation and containerization points (CCPs). The method of recouping the cost of CCP services is currently imprecise. It does not correspond to amounts processed through the CCPs. This billing method is not in accord with the Defense Business Operations Fund (DBOF) principles. Under DBOF, it is important to identify the costs of services and to allocate those costs to the users of the service.

## **1.2 Background**

On behalf of DoD, the Defense Logistics Agency operates consolidation and containerization points (CCPs) at Defense Depot Susquehanna, PA and at Defense Depot San Joaquin, CA. These CCPs receive freight from other defense depots and consolidate it into seavans and ALOC (Air Lines of Communication) pallets for overseas shipment. The Distribution Standard System (DSS) is used to manage the material which moves through the CCPs. Costs of operating the CCPs is supposed to be reimbursed to DLA under the principles of the DBOF. Because of the evolving nature of both the DBOF and the logistics operations in DoD, CCP costs are not necessarily charged in the correct amount to the correct customer.

Within DLA, a standard pricing mechanism is used to establish what customers pay for supplies ordered. Prices are established annually by the inventory control point (ICP) that manages the given item. This pricing mechanism applies to supply items purchased using funds from the DBOF supply account, but not to items which are purchased using appropriated funds. Components of the standard price are acquisition cost, item management cost, distribution cost and transportation cost. At the present time the costs of CCP processing and over ocean transportation are not built into the standard prices.

Established in FY92, the DBOF combined nine existing stock and industrial funds into one revolving fund. DBOF operations are not funded by direct appropriations. Instead customer's appropriated funds are used to purchase goods and services from the revolving fund's organization. DBOF principles require full cost recovery, that is DBOF operations are funded entirely by customers for services provided. On an annual basis, the standard prices are set for the revolving fund based on current costs. In the long run, the goal of the revolving fund is to break even.



Presently all revenues generated by the DLA and military service ICPs are collected into the overall DBOF "corpus." In turn, the DBOF corpus provides each ICP with an annual budgeted amount. However, some of the revenues remain at the DBOF corpus level. It is out of this general DBOF account that the CCP and over ocean transportation costs are currently being paid. However, in the future funds will not be available at the corpus level to make these payments. Each ICP will need to pay its share of CCP and over ocean costs. For this reason, it is important that CCP and over ocean costs be allocated to the individual ICPs.

## **2. Study Definition**

The Volpe Center performed data gathering and analysis in preparation for recommending a CCP billing mechanism. Included in this study phase were investigation and documentation of the following issues:

- Current CCP payment/reimbursement process
- Current over ocean transportation payment/reimbursement
- Flow of material through the CCPs
- Flow of data through the CCPs
- Availability of cost accounting data at the CCPs
- Billing mechanisms used by MTMC, MSC and AMC for charging customers for over ocean transportation services

As part of the data gathering process, Volpe was asked to investigate other aspects of CCP activities that may require DORO study. Particular attention was given to issues related to DoD downsizing, such as the possible transfer of household goods items and small-destination breakbulk material to the CCPs as some MTMC ports facilities are closed. Other issues emerged from the site visits and interviews conducted during the study.

### **2.1 Data Gathering Process**

During the summer of 1995, site visits were conducted at the New Cumberland and San Joaquin CCPs. These visits involved direct observations of CCP operations and interviews with personnel in the operations, transportation, and resource management departments. In the fall of 1995, a follow-up visit was conducted at the New Cumberland site to gain more information on the handling of material arriving from GSA and vendor sources and on CCP data systems. In-Process Reviews (IPRs) conducted in October 1995 and January 1996 provided input from DLA HQ and DORO on study content and direction.

During the study process, phone interviews were conducted with personnel from the following organizations:

- DLA Comptroller's Office (DLA FOBD)
- DLA Materials Management Business Office

- DLA Systems Design Center (DSDC)/Ogden
- Defense Distribution Systems Center (DDSC), DLA HQ
- MTMC's Norfolk Outport Facility
- Air Mobility Command's ALOC operation at Dover AFB and finance office at Scott AFB
- Army's Logistics Support Center (LOGSA)

## **2.2 Data Analysis Process**

To better understand the flow of material and data through the CCPs, site visits and interviews were conducted at the New Cumberland, PA and Sharpe, CA sites. Based on information gathered during these visits, both material and data flows were analyzed and flowcharted. In addition, data related to over-ocean transportation costs for CCP-originated shipments were collected and reviewed.

## **2.3 Development of Billing Alternatives**

As part of the development of billing alternatives, Volpe documented the current billing process for CCP costs. The current billing process for over ocean transportation was also investigated. Because over ocean customers are similar to CCP customers, it is anticipated that the billing methodology developed for CCP processing might also be applied to over ocean transportation costs.

A set of alternative billing mechanisms was developed based on the availability of data from CCP data systems. Taking into consideration DoD funding policies and input from DLA HQ and DLA FOBD personnel, Volpe has recommended a billing alternative that should provide a feasible and equitable method for recouping CCP costs in accordance with DBOF principles.

## **2.4 Identification of Additional CCP Study Requirements**

In conjunction with the work on the CCP billing requirements, Volpe investigated other CCP issues that may require DORO study. Issues suggested by DLA HQ for investigation included the possible transfer of household goods items and breakbulk material through the CCPs if MTMC port facilities are closed. Several other issues emerged during the site visits and are addressed in this report.

### **3. Analyses Conducted In CCP Study**

#### **3.1 DoD Policies and Directives**

By FY98 DoD is requiring that the CCP processing and over ocean transportation costs be fully reimbursed by the users of these services. There are at least two potential users or "customers" that could be billed. The DLA and service ICPs are considered customers of the CCPs as are the service units that requisition the supplies.

During the summer of 1995, USTRANSCOM distributed to all DoD components a memorandum on over ocean transportation charges. The memo stated that the DBOF principle requires that the requisitioning activity (overseas consignee) pay for the overseas transportation services. This policy initiative would bring DoD in line with private sector practice where the international delivery charge is separate from the list price. However, implementation of this policy would require major changes in current budgets and accounting systems. This initiative is not going forward at the present time. DoD policy currently favors billing the ICPs as the customer for CCP processing and over ocean transport services.

On an annual basis the ICPs assess their costs for acquisition, administration, distribution and transportation and establish a standard price for all items. If CCP processing and over ocean costs are billed back to the ICPs, these costs can be incorporated into the standard price. This mechanism provides a way to recoup from the requisitioning activity the cost of processing and transporting over ocean shipments. One disadvantage of this method is that CONUS customers pay the same prices as OCONUS customers and hence subsidize the CCP processing and over ocean transportation costs.

Standard prices are established for ICP-managed items, but not for items purchased with appropriated funds, known as "end items." A portion of items processed through the CCPs are end items and are not funded through the DBOF. Under DBOF principles the processing of end items should not be recouped through the charge backs to the ICPs. DLA is currently working to develop data in DSS to distinguish DBOF from non-DBOF items.

#### **3.2 Current CCP and Over Ocean Billing Practices**

Since DLA's takeover of the CCPs, costs have been fully reimbursed out of the DBOF corpus. CCP labor hours are charged to one cost account code (334). Within this cost account, labor is broken down by work centers (e.g. receiving, packing, and shipping), but work center data is not

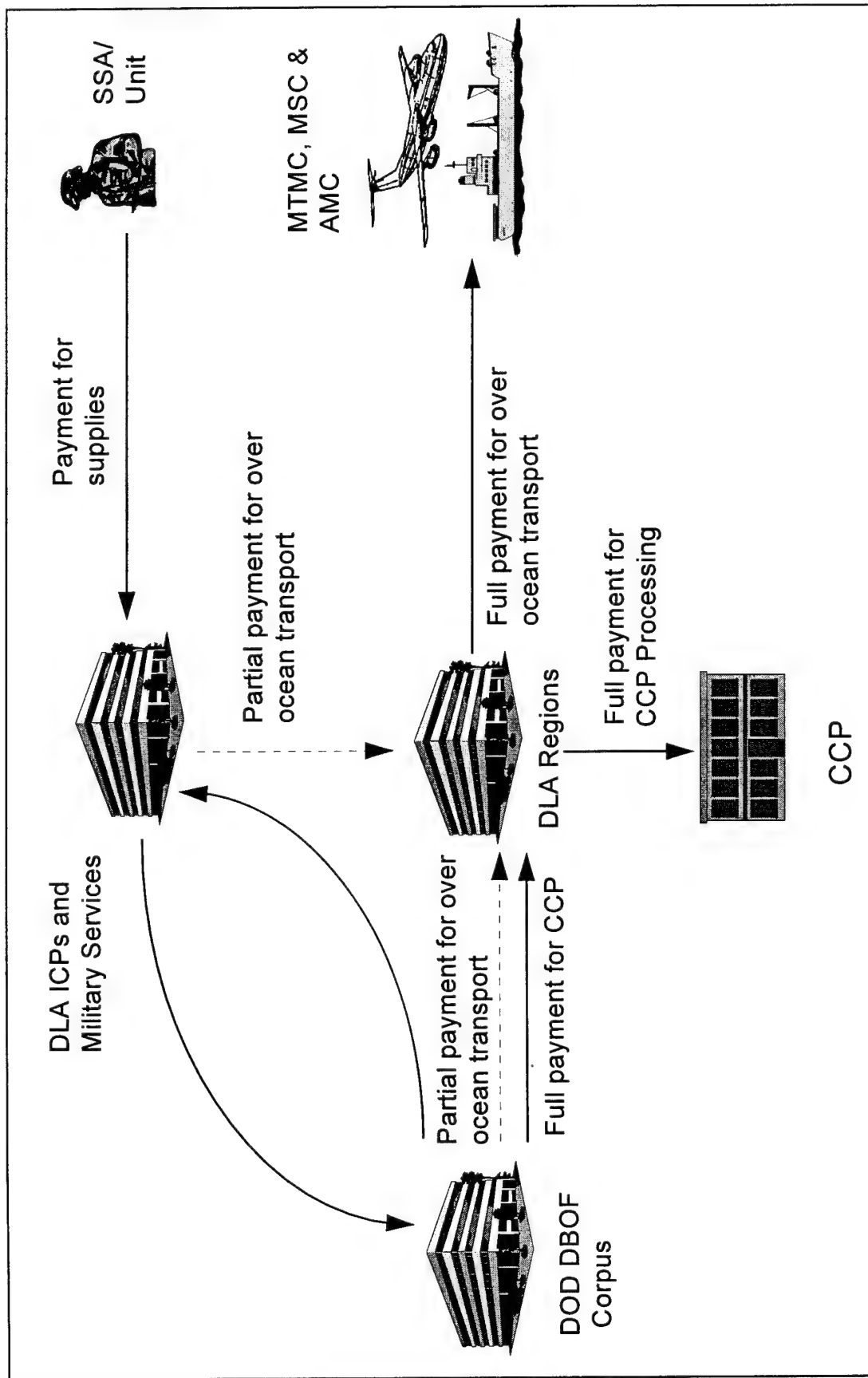
used for billing purposes. Indirect and overhead costs are apportioned based on the percentage of direct CCP labor hours to overall direct labor hours for the DLA region. Each month a unit cost report is sent by the CCPs to the DLA Comptroller's Office. The CCP is budgeted a certain amount each year for operating expenses.

The military transportation component commands, MTMC, MSC and AMC, provide over ocean transportation services to the CCPs and to other depots that initiate over ocean shipments. MTMC provides port handling services to its customers and bills based on a TAC associated with each line item handled. Items shipped from the CCP are assigned a TAC for the CCP. MTMC bills the DLA region based on this TAC. The region also receives bills for all items shipped from depots in the region to the MTMC ports.

MSC covers the domestic and export transportation segments of over ocean shipments. MSC bills the DLA region on a monthly basis for shipments originating from the CCP and from other depots within the region. AMC covers overseas military air shipments. They also bill the DLA region on a monthly basis. The DLA region receives monthly bills from MTMC, MSC and AMC, listing all lines charged to a TAC, where each TAC represents one or more material release order (MRO) lines. These bills are forwarded to the Defense Finance and Accounting Service (DFAS) for payment out of the DBOF corpus.

Starting in FY95, the DLA ICPs and the military services were asked to make voluntary contributions to cover some of the over ocean costs. Starting in FY96, they were asked to cover one half of the over ocean costs. A formula based on total short tons (weight) shipped from all depots to domestic and overseas destinations was used to allocate costs. This formula is an imprecise estimate of over ocean shipments because it includes CONUS as well as OCONUS shipments. Also the services would prefer that the unit of measure be measurement tons (cube) rather than short tons (weight) since measurement tons are used by MTMC and MSC to calculate over ocean transportation charges. Figure 1 shows the current CCP and over ocean payment process.

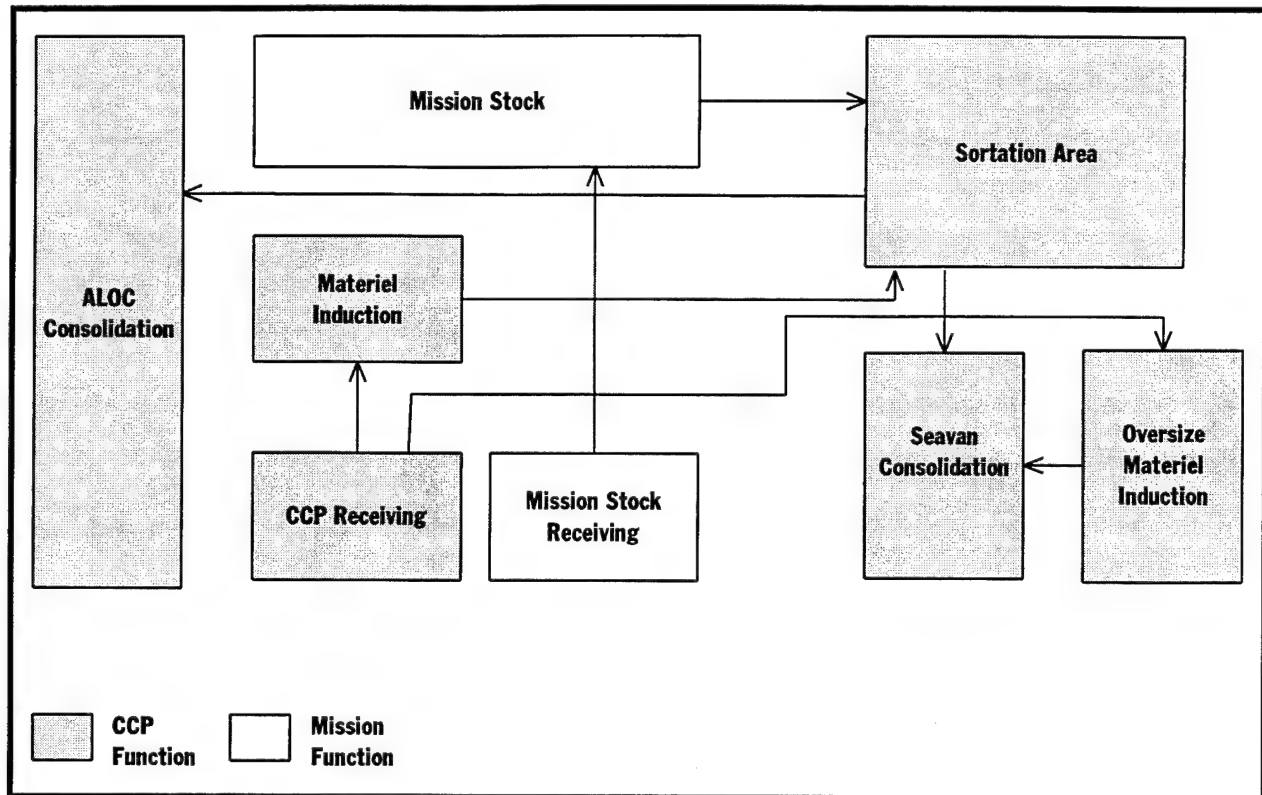
Figure 1. Current CCP/Over Ocean Payment Process



### 3.3 Review of CCP Operations

Analyzing the flow of material through the CCPs is important to understand the accompanying data flows. Figure 2 shows the flow of material through the CCPs. This diagram represents the flow of material, not necessarily the physical layout of the CCP operation.

**Figure 2. CCP Operational Flow**



#### 3.3.1 Induction

The CCPs consolidate transshipment and collocated mission stock material. Transshipment material arrives at the receiving department where it is directed to the appropriate induction area (standard or oversized). Workers at the video input processing stations (VIPS) wand bar code transportation control numbers (TCNs) to display prepositioned material release order (MRO) data from the Distribution Standard System (DSS). Missing MRO data is manually keyed into DSS at this time for each line item inducted. A carton control number (CCN) is generated at the VIPS station. The CCN is placed on bar code labels for routing material through the CCP

### **3.3.2 Consolidation**

Transshipped material is directed by bar code to the sortation area. Material from mission stock is also directed to the sortation area. Commingled transshipped and mission stock material are consolidated into triwall (multipack) containers by the DODAAC (Department of Defense Activity Address Code) for the overseas destination. Bar code technology tracks each line item as it is placed inside a multipack. At the sortation stations, workers apply bar code labels to the triwall containers indicating a lead TCN and the DODAAC for the overseas consignee. A pack control number (PCN) is placed on the outside of the container. After leaving the sortation area, the triwall is sent to a station where weight and cube are measured and a packing list for the triwall is printed out. From here, the triwalls are directed to the outbound freight area for staging.

Oversized material is handled separately. From receiving, it is sent to the oversized induction area where documentation is prepared with pieces, weight, and cube. This information is entered at a VIPS station. A CCN label is placed on the item, and it is sent to the outbound freight section for staging.

### **3.3.3 Container Stuffing/Pallet Building**

In the outbound freight section, consolidated freight from sortation and oversized cargo is staged by overseas destination DODAAC. This is the DODAAC of the overseas supply support activity (SSA) or the breakbulk point. Containers are loaded in accordance with established load plans for each destination served.

Both seavans and ALOC pallets are built according to the overseas destination DODAAC. Seavans may be headed for one SSA/breakbulk point or for multiple stopoffs (up to five). Load plans call for sequence loading of containers for stop-off routes. ALOC pallets are built for only one SSA/breakbulk point. As material is loaded into seavans or ALOC pallets, it is wanted to check that it conforms to the predetermined load plan and automatically creating a document known as a vehicle load order (VLO).

Hazardous material is also handled separately. When hazardous cargo is included in a shipment, the container is partially loaded at the CCP, then moved to the hazardous shipping terminal where the hazardous cargo is loaded and the container is sealed.



### **3.4 CCP Data Systems**

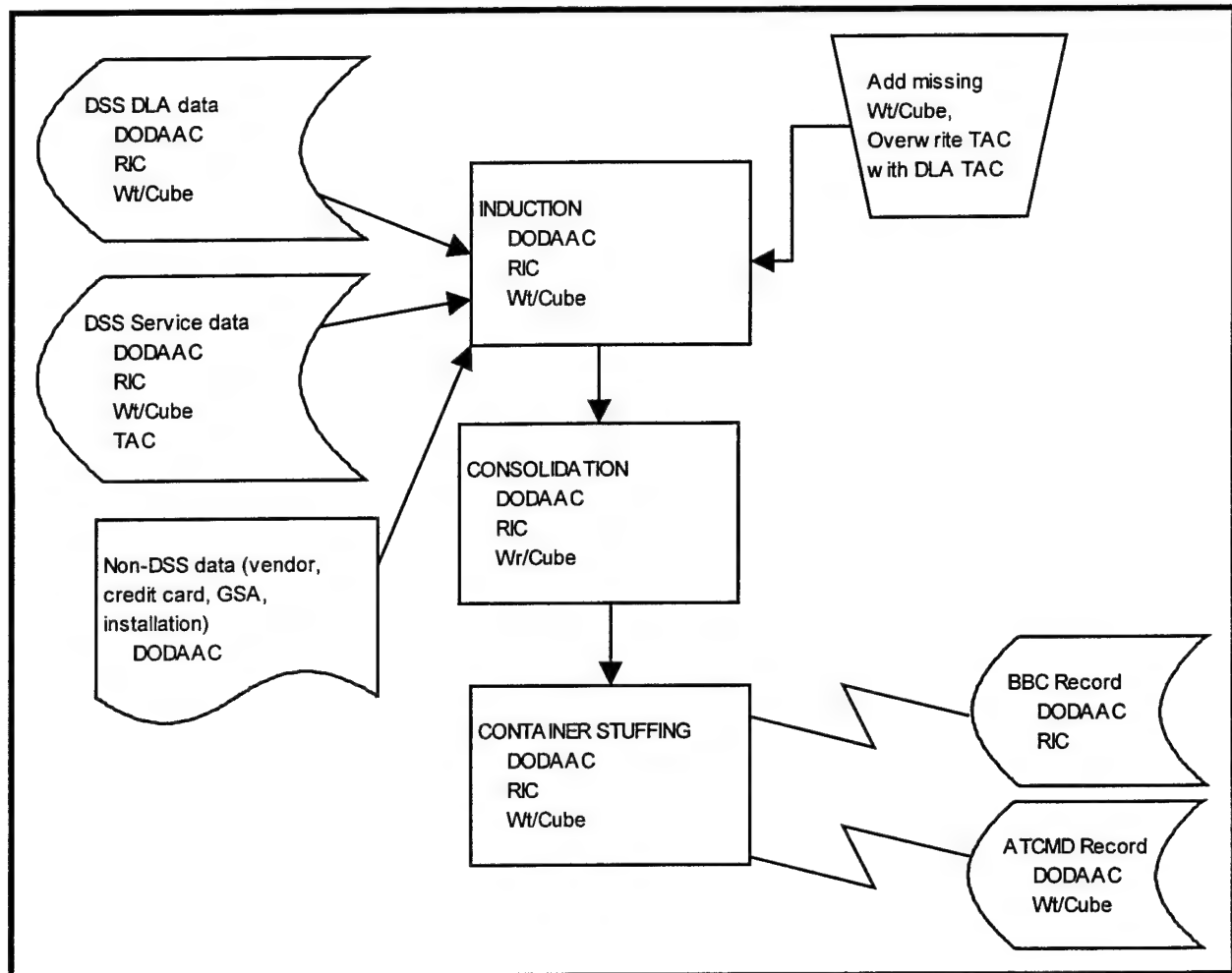
The CCPs utilize various automated systems in their operations. Distribution Support System (DSS) contains prepositioned data for shipments coming into the CCP. During the induction process, missing data is manually added into DSS through the VIPS terminals. Some incoming data is dropped or over-written. When CCP processing is completed, shipment data is sent to the DSS Management Information System (MIS), to the Army's Logistic Information File (LIF), and to the Worldwide Ports System (WPS).

MIS provides DLA management with line counts for depot processing as a measure of productivity. CCP line counts are sent to the MIS in the form of "BBC" records. For every MRO line item processed through the CCP, a BBC record is created. The Army's LIF contains information on items shipped by the CCP, including the container and transportation control number (TCN) level data. The WPS contains advance transportation control and movement (ATCMD) data for all items shipped from the CCP at the container and TCN level.

Various data elements were examined during the study as potential identifiers of the CCP customer to bill, including the routing identifier code (RIC), the transportation account code (TAC) and the DODAAC. The RIC identifies the "owner" of the material being shipped, typically a DLA or service ICP. The TAC identifies the service account that pays for transportation. The DODAAC identifies the consignee who will receive the material. The feasibility of using each of these data elements as customer identifiers is discussed below.

In addition to identifying a customer to bill, the unit of measure for use in billing was evaluated. Candidates included line count, weight and cube. Not all measurement data is universally available in the CCP systems. MIS contains only line count information. LIF and WPS contain line count, weight and cube. Figure 3 shows the flow of data through the CCP, including the availability of key data elements at various points in the process.

**Figure 3. CCP Data Flow Diagram**



### **3.5 Requisitioning Data Systems**

The service legacy systems feed selected requisition data into DSS. There is data in these systems that is potentially useful for CCP billing, but which is not currently being captured by DSS. For example, the Army, Navy and Air Force systems distinguish between DBOF and non-DBOF items in various ways. Since CCP processing of non-DBOF items should not be billed to a DBOF account, this information would be valuable. Also the service TAC, which could be used as a billing mechanism, is not captured. The DLA System Design Center (DSDC) is investigating ways to capture this information. Since the programming required is complicated, this is a long-term project and involves modifications that are not yet included in planned DSS increments.

## **4. Billing Alternatives**

### **4.1 Characteristics of Alternatives**

CCP billing alternatives were defined based on the analyses described above. These alternatives include the use of the RIC, the TAC, the DODAAC and a hybrid of RIC and DODAAC. The assessment of alternatives involves primarily a qualitative analysis although some data analysis is used as part of the evaluation. The following characteristics were used in evaluating the CCP billing alternatives:

#### **4.1.1 Availability of Data Within DLA/CCP Data Systems**

Because of the large number of requirements already added to DSS, new data elements are being actively discouraged. The focus is on implementing DSS increments as they have been laid out. Similarly it is unlikely that data elements could be added to LIF or WPS in the near future. Preference was given to data that is already available in the current systems

#### **4.1.2 Completeness/Reliability of Data**

If data is only available on a portion of items being processed through the CCPs or is not reliable, the billing mechanism will not have credibility with the customer and will be less valuable as a billing mechanism. Preference was given to alternatives for which there was complete and reliable data.

#### **4.1.3 Correspondence with DoD Policies**

Current DoD policy supports billing back the cost of CCP processing and over ocean transportation to the ICP for incorporation into standard prices. Although there has been a proposal by the U.S. Transportation Command (USTRANSCOM) for shifting the cost to the overseas consignee, this initiative is not moving forward at the present time. Preference was given to alternatives that conform to current DoD funding policies.

### **4.2 Routing Identifier Code**

DLA uses RICs to track the movement of MROs (material release orders) through the supply system. The MRO documentation contains a "RIC from" indicating the activity originating the MRO and a "RIC to" indicating the source to which the MRO is directed. The first RIC represents the owner of the material, typically the ICP, and the second RIC indicates depot from which the material is issued. For the purposes of CCP billing, the first RIC, also known as the "owner" RIC,

is the relevant data element. The ICP is the activity that sets standard prices annually in conjunction with the DBOF. Billing the ICP allows CCP processing costs to be incorporated into the standard prices. Figure 4 shows the pros and cons of using the RIC as the billing mechanism.

| Figure 4. Routing Identifier Code (RIC) |   |
|---|---|
| Pro                                     | <ul style="list-style-type: none"><li>• Available in MIS BBC record</li><li>• BBC record created for each item processed thru CCP</li><li>• Conforms with DoD policy on standard prices</li><li>• Services can access MIS data for verification</li></ul> |
| Con                                     | <ul style="list-style-type: none"><li>• RIC data not useable for some percentage of CCP shipments (vendor, GSA, credit card, installation)</li></ul>  |

#### 4.2.1 Data Availability

The RIC is available on the majority of shipments processed through the CCP. For material arriving from depots, MRO data is prepositioned in DSS. Bar code wand of the TCN at the induction stations displays the RIC and other MRO data on the VIPS screens. In those cases where the RIC data is not available in DSS, but is available in hard copy, the induction worker manually enters it. For material without a RIC, workers enter a default code. When a CCP shipment is completed, the BBC record containing the "owner" RIC is sent to MIS and to LIF.

#### 4.2.2 Data Completeness/Reliability

DORO receives monthly tapes of MIS data from the Ogden Megacenter. In conjunction with DORO, Volpe analyzed owner RIC data from the BBC records transmitted from New Cumberland and San Joaquin for the month of February 1996. Results showed that 76 percent of the shipments had identifiable DLA or service ICP RICs (see Figure 5). The remaining 24 percent were

accounted for by GSA shipments (10 percent), vendor shipments (4 percent) and "other" RICs (11 percent).

Although the GSA RICs identify the source of the shipment, this information can not be used to bill back CCP charges because of GSA's agreements with DoD. The vendor category contains shipments arriving at the CCP from vendors without RIC data. For these shipments, a default vendor RIC is entered manually. The "other" RIC category contains shipments with RICs, which are not directly identifiable as ICPs. The first alpha character of the RIC can be used to identify the service or agency. In the sample data, there were 240 distinct "other" RIC entries.

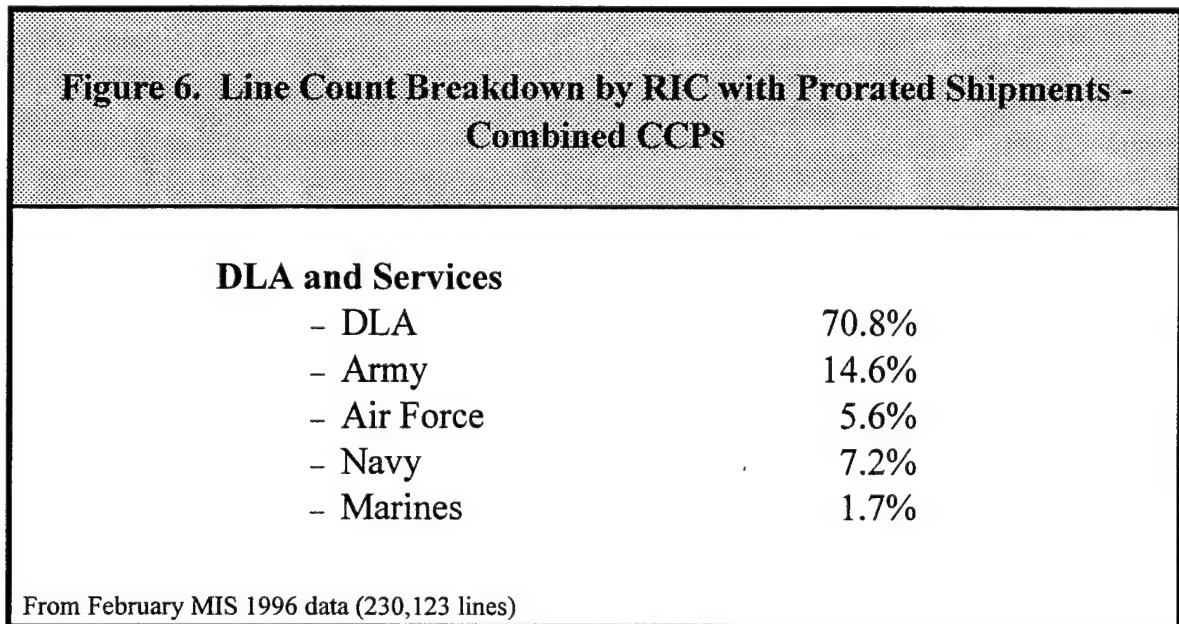
**Figure 5. Line Count Breakdown by RIC - Combined CCPs**

|  |              |
|--|--------------|
| <b>Billable (DLA and Service ICPs)</b> | <b>75.6%</b> |
| - DLA                                  | 59.6%        |
| - Army                                 | 11.3%        |
| - Air Force                            | 4.7%         |
| - Navy                                 | 0.0%         |
| - Marines                              | 0.0%         |
| <b>Non-Billable</b>                    | <b>24.4%</b> |
| - GSA                                  | 9.9%         |
| - Vendors                              | 3.8%         |
| - Other RICs                           | 10.7%        |

From February MIS 1996 data (230,123 lines)

Since only approximately three quarters of the shipments have RICs associated with ICPs, a methodology is needed to bill for the remaining shipments. One way to bill for the non-ICP shipments is to prorate them based on the proportion of DLA and service shipments in the data and bill. Figure 6 displays the percentage breakdown by RIC where the "other" RIC category was distributed among DLA and the services based on its first alpha character, and the GSA and vendor shipments were prorated, i.e. distributed proportionately, across the DLA and service categories. Note that the Navy and Marine categories increase significantly due to the fact that the Navy and

Marine RICs found in the MIS data were not identifiable ICPs, but do have service-identifiable RICs.



#### **4.2.3 Correspondence with DoD Policies**

Use of the RIC as the data element for billing does not allow the consignee to weigh transportation costs when making purchasing decisions. However, it does allow CCP costs to be incorporated into standard item prices in support of current DoD policies.

#### **4.3 Transportation Accounting Code**

The TAC is used to bill transportation charges for the shipment of military supplies back to the services. The TAC was evaluated as a billing mechanism because of its widespread use in DoD. Figure 7 shows the pros and cons of using the TAC as the billing mechanism.

### **Figure 7. Transportation Accounting Code (TAC)**

#### **Pro**

- Principal method for payment of non-depot DoD transportation costs
- Transportation accounts already exist in service budgets

#### **Con**

- Does not conform to DoD policy on standard pricing
- TAC data missing for shipments processed through DSS with no current plans for including TAC as data element
- Correction of invalid TACs can be time-consuming

#### **4.3.1 Data Availability**

Prior to implementation of DSS, TACs were available on incoming material at the CCPs and were used for billing purposes within the Army. At present, the induction screens at the CCPs contain a TAC field. However, material arriving at the CCPs is often missing TAC information. If there is TAC information, it is overwritten during the induction process with the DLA TAC for New Cumberland and San Joaquin respectively. This DLA TAC is used by MTMC, MSC and AMC to bill over ocean charges back to the DLA region.

There is an effort underway to incorporate more TAC information into DSS. There was a MILSTAMP change this year requiring the TAC to be on the military shipping label for small OCONUS packages. These are primarily packages going by commercial carrier. Inclusion of the TAC on the military shipping label for freight will not occur for 2-3 years. These changes require the inclusion of a TAC on incoming shipping labels, but there are no current plans to include TAC as a data element in DSS.

#### **4.3.2 Data Completeness/Reliability**

TACs used in billing for over ocean charges by MTMC, MSC and AMC are not always reliable. MTMC has a staff devoted to researching invalid TACs. Army and Air Force TACs are small in number, but the Navy has TACs down to the DODAAC level creating problems in sheer volume.

#### **4.3.3 Correspondence with DoD Policies**

TACs represent the principal method of payment within DoD for non-depot transportation charges. MTMC, MSC and AMC all use the TAC for billing their over ocean transportation services. The use of TACs does allow visibility over transportation costs on a service-wide level. However, like the RIC, the TAC is not visible to the consignee and does not affect local purchasing decisions.

#### **4.4 DODAAC**

The DODAAC is used in DoD to identify the shipping addresses of service units. The first alpha character identifies the service or agency associated with the service unit. For shipping of military supplies, the DODAAC is the standard way to identify the customer receiving the shipment, i.e. the consignee. Figure 8 shows the pros and cons of using the DODAAC as the billing mechanism.

**Figure 8. Department of Defense Activity Address Code (DODAAC)**

##### **Pro**

- DODAAC is available on almost all shipments processed through the CCP
- Data is available on MIS BBC records for all shipments
- Military services can access MIS for verification

##### **Con**

- Billing would require accounting system changes within the military services



#### **4.4.1 Data Availability**

The DODAAC of the consignee is almost universally available as a data element on material processed through the CCP. Even on GSA and vendor-originated shipments, the DODAAC is available. In those instances where a DODAAC is missing, an attempt is always made to assign a DODAAC at the CCP so that the material can be shipped. This data availability makes the DODAAC an appealing candidate for CCP billing purposes. In addition, the first two alpha characters of the DODAAC uniquely identifies the service or agency that initiate the requisition.

#### **4.4.2 Data Completeness/Reliability**

The consignee DODAAC is available in MIS, LIF and WPS data systems. It would allow billing by line, weight or cube. The weight and cube data available through the ATCMD in the WPS should be accurate because material is weighed and cubed as part of CCP processing. This weight and cube is passed on to WPS. It is more reliable weight and cube data than that currently available in DSS.

#### **4.4.3 Correspondence with DoD Policy**

The consignee DODAAC could be used either to bill each service/organization or to bill consignees directly. The latter method would allow the requisitioner to consider the cost of over ocean transportation when making purchasing decisions. However, neither of these approaches allows the incorporation of CCP and over ocean transportation costs into standard prices, currently DoD's favored mechanism for recouping costs.

### **4.5 Hybrid Alternative**

A combination of RIC and DODAAC was proposed as a hybrid alternative. Since the RIC is not available for some shipments and the DODAAC is available for all shipments, a hybrid mechanism involving both elements was considered.

The advantage of using both RIC and DODAAC is that shipments without an identifiable ICP could be billed back to the requisitioning service or agency. A disadvantage is that these services and agencies would need to budget funds to cover the increased costs. Another disadvantage is that a hybrid mechanism combines two policy directions, billing back to the ICPs for inclusion in standard prices and billing back to the services as customer.

Programming needed for a hybrid mechanism would be more complex than for the RIC billing option. Each BBC record would need to be checked for a valid ICP RIC. For lines with non-ICP RICs, the program would need to accumulate billing data by DODAAC for the services/agencies.

#### **4.6 Unit of Measure Alternatives**

The unit of measure to be used in the billing was evaluated as part of the alternatives analysis. Line counts are readily available through MIS. However, weight or cube may be a better measure of the amount of material processed through the CCPs. For over ocean transportation, cube is the preferred measure since MTMC and MSC use measurement tons (cube) in their own billing processes. Figure 9 shows issues associated with the unit of measure alternatives.

**Figure 9. Unit of Measure Alternatives**

- **Line Count**
  - Available through MIS
  - Accurate data
- **Weight (Short Tons)**
  - Available through MIS by matching BBC and issue records
  - More representative of volume processed than line count
  - Accurate data
- **Cube (Measurement Tons)**
  - Available through MIS by matching BBC and issue records
  - Used as standard measurement unit for over ocean shipments
  - Data is not currently accurate

The only unit of measure available in the BBC record is line count. Weight and cube are considered better measures of amounts of material processed through the CCPs. To overcome this limitation, an analysis was performed at DORO linking the MIS issue record with the BBC record.

The issue record created at the depot contains weight and cube information by line. The document identification number was used as a common data element to match the two records. Data from

October through December of 1995 were analyzed. Results showed matching records in 70 percent of the time. Mismatches were due to missing issue records. Investigation into the reasons for these missing records is continuing.

A prior DORO analysis of MIS weight and cube data has shown the quality of the cube data to be poor. However, the quality of the weight data appears adequate for billing purposes. The weight and cube data in DSS originates from the depots. Weight and cube data generated in CCP processing is more accurate because material is measured during CCP processing. However, this data does not get transmitted back into MIS. Efforts to improve the quality of both the weight and cube data in MIS are ongoing. DORO has written a memorandum recommending ways to improve the quality of the MIS weight and cube data.

## 5. Recommendations

### 5.1 Recommendations for Billing Mechanism

The comparison of billing alternatives by the evaluation criteria discussed in Section 4 is summarized in Figure 10.

| Figure 10. CCP Billing Alternatives   |         |     |        |        |
|---------------------------------------|---------|-----|--------|--------|
| EVALUATION CRITERIA                   | RIC     | TAC | DODAAC | Hybrid |
| Data Available in Current System      | Yes     | No  | Yes    | Yes    |
| Data is complete/reliable             | Partial | No  | Yes    | Yes    |
| Corresponds with Current DoD Policies | Yes     | No  | No     | No     |

Volpe recommends selection of the RIC as the billing mechanism because the data is easily available for billing purposes and because billing by RIC corresponds with current DoD business practices. The disadvantage to using the RIC is that approximately one-quarter of CCP-processed shipments do not have RICs for billable ICPs. Volpe recommends that the remainder of the shipments be billed according to the proportion of billable RICs in the data.

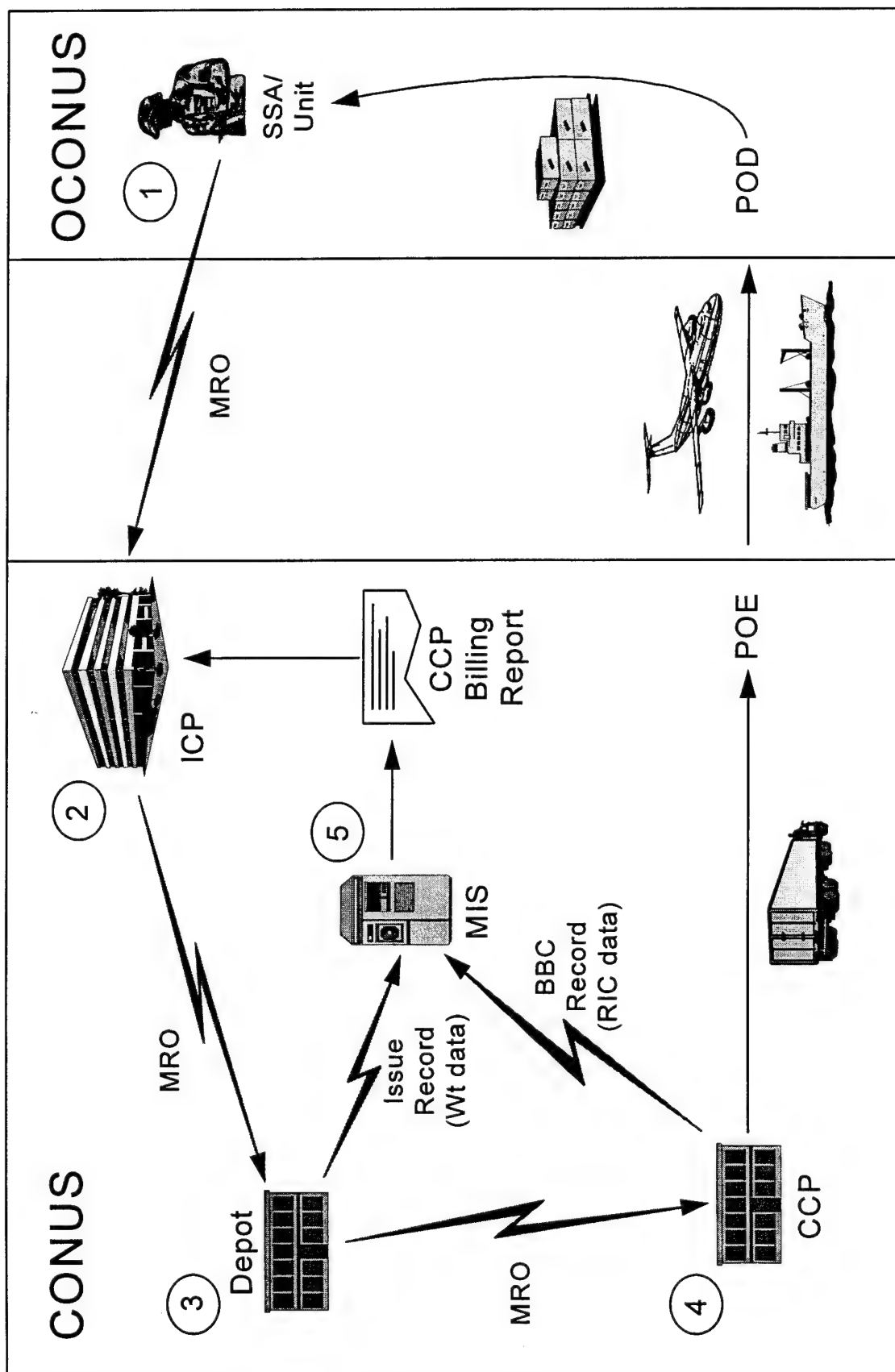
Volpe recommends the use of weight as the unit of measure for billing purposes. The DLA Comptroller's Office has indicated that they will use the billing mechanism developed for CCP processing for over ocean transportation billing as well. MTMC and MSC use cube (measurement ton) as the unit of measure for billing their customers. AMC uses pounds (short tons) as the unit of measure for billing. Given that the quality of the MIS cube data is currently not good, weight represents a better surrogate for cube than line counts. The weight per line can be obtained by matching MIS BBC and issue records as described previously. Figure 11 shows Volpe's recommendations for CCP billing.

### **Figure 11. Recommendations For CCP Billing**

- Use the owner RIC in the MIS data for identifying the customer
- Analyze the MIS BBC records to arrive at billing proportions
- Use weight as the unit of measure for billing
- Match BBC and MIS issue records to obtain weight per line item
- Prorate non-ICP shipments based on proportion of ICP shipments

Figure 12 depicts the data flow associated with the proposed billing alternative, starting with the overseas requisitioner and ending with the submission of a bill to the ICP.

Figure 12. Proposed CCP Billing Process



## **5.2 Implementation of Proposed Mechanism**

The steps in implementing the RIC billing mechanism involve analyzing the MIS RIC data for a given period of time and then transmitting the billing information to the DLA and service ICPs. Because the standard prices have already been set for FY97, the goal will be inclusion of CCP costs in FY98 prices. This means that billing information must be available for the DLA and services by June 1996.

DORO should analyze MIS data for the maximum feasible time period. Since the MIS data is less reliable prior to October '95, the first set of data analyses might include October '95 through March '96. The MIS data will be used to project the annual amounts owed by the DLA and service customers. The DLA Comptroller's Office of Program Budget will meet with the DLA and service ICP representatives to establish agreement on the billing mechanism and present the results of the data analysis.

Once a billing mechanism has been agreed to, the DDRW and DDRE will bill their ICP customers for the amounts specified based on the MIS data analysis. DLA regions are the best candidates for performing CCP billing because they are currently involved in billing ICPs for distribution services.

Implementation of the proposed billing mechanism will require initial setup and on-going tasks to be performed by DORO, DLA Comptroller's Office and the DLA regions. To obtain the billing proportions by RIC, DORO will need to run analyses on the MIS data. It is estimated that the initial setup for this data analysis task will require approximately 100 labor hours and that subsequent data analyses will require approximately 40 labor hours.

The DLA Comptroller's Office will meet with representatives of the military services and DLA ICPs to explain the billing procedures and will transmit billing information to the DLA regions. These tasks should not add significantly to the work load of the Comptroller's Office. The Program Management Branch of the Resources Management Division at the DLA regions will do the CCP billing. Since the DLA regions currently bill the ICPs for distribution services, these tasks should not add significantly to their work load.

## **6. Identification of Additional CCP Study Requirements**

As part of the CCP site visits, Volpe was asked to conduct "fact-finding" interviews to identify other CCP issues requiring further study. Issues related to DoD downsizing and re-engineering were to be considered along with current problems identified by CCP personnel. Two issues suggested by DLA HQ for investigation were the effects of the transfer of household goods and small-destination breakbulk material through the CCPs if these functions were relinquished by MTMC port facilities.

### **6.1 Household Goods Movement**

Prior to CCP site visits, the issue of household goods (HHG) movement was discussed with DLA's Distribution Business Management Office. Concern was expressed that since the CCPs were operating at or near capacity, there might not have enough personnel to handle the increased workload due to household goods movement. Although Congress might approve increased funding for this purpose, they would not approve new hiring. It was suggested that if the MTMC port facilities closed down, some positions could be transferred to the CCPs. During the site visits, however, Volpe was told that the CCPs were not operating at capacity and could handle the increase workload of household goods. In addition CCP personnel stated that because they are collocated with a depot, during contingency operations, they can draw on their depot labor pool. There was concern expressed about HHG movement creating a conflict of priorities during contingency operations. However, since HHG movements tend to be lower during contingencies, this may not be a problem.

If household goods are transferred to the CCPs, there will need to be system changes to accommodate the HHG GBL (government bill of lading). These GBLs require new data elements, such as name, social security number, rank and grade of the HHG owner. Because it is difficult at the moment to add new requirements to DSS, this system change may present a problem.

Processing HHGs would increase the amount of non-DBOF material processed by the CCPs. Although a TAC could be used to fund HHGs movement, a system change would be needed to add this data element.

### **6.2 Breakbulk Material Shipment**

Concern has been expressed by DLA HQ that the CCPs are currently transshipping breakbulk material that does not result in full contain loads to MTMC port facilities for consolidation.



However, CCP personnel maintained that if they do not accumulate a container load for a particular destination after a specified period of time, they will ship it as LCL (less container load) directly to the overseas destination. The only material that is transshipped to MTMC ports are poisons since regulations prohibit CCP handling and certain oversized items that cannot be containerized and must be shipped on a flatbed.

Another concern is that the CCPs will experience an influx of small-volume breakbulk material if MTMC port facilities are closed. Unlike the MTMC outports, the CCPs consolidate LCL cargo into throughput containers that deliver cargo via predetermined route plans. CCP personnel maintained that the current automated system can be programmed to handle any variations in destination. However, more investigation is needed on this issue. The CCPs may not be aware of the nature and extent of the small-volume shipments MTMC is currently processing.

### **6.3 Visibility Over CCP Shipments**

CCP personnel at both New Cumberland and San Joaquin mentioned the need for visibility over shipments processed through the CCP. The DLA Warehousing and Shipping Procedures System (DWASP) had provided a report that tracked all GBLs produced at the CCP. With the installation of DSS, this capability is no longer available. CCP personnel need information on GBLs to answer questions from their customers. The LIF allows inquiries on individual shipments, but no data in report format.

### **6.4 Investigation of Over Ocean Billing Charges**

DLA region personnel were concerned about the accuracy of the over ocean bills they receive from MTMC, MSC and AMC. The regions are billed for over ocean shipments originating from the CCP and from other depots within the region. The regions do not have adequate staff to verify the voluminous bills that they receive each month. Random samples have shown that there are a high percentage of invalid TACs in the billing data. Because the regions do not have the resources to analyze the over ocean billing by TAC, they do not presently know the proportion of the charges that are for CCP-originated shipments versus shipments originating from other region depots. Further investigation is needed on over ocean billing charges.

## **APPENDIX A**

### **List of Acronyms**

|          |  |
|----------|--|
| AFB      | Air Force Base   |
| ALOC     | Air Lines of Communication                               |
| AMC      | Air Mobility Command                                     |
| ATCMD    | Advance Transportation Control and Movement Document     |
| CCN      | Container Control Number                                 |
| CCP      | Consolidation and Containerization Point                 |
| CONUS    | Continental United States                                |
| DBOF     | Defense Business Operations Fund                         |
| DDRE     | Defense Distribution Region East                         |
| DDRW     | Defense Distribution Region West                         |
| DDSC     | Defense Distribution Systems Center                      |
| DFAS     | Defense Finance and Accounting Service                   |
| DLA      | Defense Logistics Agency                                 |
| DODAAC   | Department of Defense Activity Address Code              |
| DORO     | DLA Operations Research Office                           |
| DOT      | Department of Transportation                             |
| DSDC     | DLA System Design Center                                 |
| DSS      | Distribution Standard System                             |
| DWASP    | DLA Warehousing and Shipping Procedures                  |
| GBL      | Government Bill of Lading                                |
| GSA      | General Services Administration                          |
| HHG      | Household Goods  |
| ICP      | Inventory Control Point                                  |
| LCL      | Less Container Load                                      |
| LIF      | Logistic Information File                                |
| LOGSA    | Logistics Support Center                                 |
| MILSTAMP | Military Standard Transportation and Movement Procedures |
| MIS      | Management Information System                            |
| MRO      | Materiel Release Order                                   |
| MSC      | Military Sealift Command                                 |
| MTMC     | Military Traffic Management Command                      |
| OCONUS   | Outside Continental United States                        |

|            |   |
|------------|---|
| POD        | Port of Debarkation                                   |
| POE        | Port of Embarkation                                   |
| PCN        | Pack Control Number                                   |
| RIC        | Routing Identifier Code                               |
| SEAVAN     | Commercial/Government-owned/leased Shipping Container |
| SSA        | Supply Support Activity                               |
| TAC        | Transportation Account Code                           |
| TCN        | Transportation Control Number                         |
| USTRANSCOM | U.S. Transportation Command                           |
| VIPS       | Video Input Processing Station                        |
| VLO        | Vehicle Load Order                                    |
| WPS        | Worldwide Ports System                                |

## **APPENDIX B**

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